

ICT

2

Lesson preparation book

prep2

Second term



Teacher's Biography

Name:

School:

The educational administration:

Qualification:

Teaching Subject:

Comprehensive School:

The school to which he is delegated:

Date of appointment:

The job is on the staff:

Teacher Code:

Mobile Number:

Teacher

Supervisor

School Principal

Daily class schedule

Session Day	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eightieth	Ninth
Saturday									
Sunday									
Monday									
Tuesday									
Wednesday									
Thursday									

session Day	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eightieth	Ninth
Saturday									
Sunday									
Monday									
Tuesday									
Wednesday									
Thursday									

Teacher

Supervisor

School Principal

General Objectives of Information and Communication technology (ICT) – second preparatory
Grade, Second Semester, Year 2025/2026

By the end of the second semester, the student should be able to:

✍✍✍ **Understand** the concept of artificial intelligence and its impact on our lives.

✍✍✍ **Understand** the applications of artificial intelligence.

✍✍✍ **Define** the concept of an artificial neural network.

✍✍✍ **Recognize** the importance of programming languages.

✍✍✍ **Explain** the types of loops and functions in Python.

✍✍✍ **Learn** how to use Microsoft Excel.

✍✍✍ **Acquire** proficiency in working with programming languages.

✍✍✍ **Explain** the concept of the Python programming language.

✍✍✍ **Use** robotics and sensor technologies.

✍✍✍ **Learn** the fundamentals of the Python programming language.

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Specific Objectives of the Information and Communication Technology (ICT) Subject

Second preparatory Grade, Second Semester Year 2025/2026

By the end of the second semester, the student should be able to:

- **Distinguish** between the workings of traditional programs and artificial intelligence.
- **Understand** the historical development of artificial intelligence.
- **State** the importance of artificial intelligence in solving problems in our lives.
- **Compare** human thinking and machine thinking.
- **List** some examples of applications of artificial intelligence in our lives.
- **Suggest** some future applications of artificial intelligence.
- **Understand** the ethical responsibility in the uses of artificial intelligence.
- **Suggest** as many ideas as possible for using artificial intelligence technology in responsible ways.
- **Suggest** some simple projects that employ artificial intelligence responsibly.
- **Explain** the concept of artificial neurons.
- **Identify** the components of a neuron and its role in artificial intelligence.
- **Understands** how to build and operate an artificial neural network.
- **Recognizes** the concept of artificial neural networks.
- **Explains** the components of an artificial neural network.
- **Lists** as many ideas as possible for neural network applications in our lives.
- **Understands** the advantages of Python as a suitable language for data analysis.
- **Recognizes** the basic concepts in data analysis (arithmetic mean, maximum, and minimum values).

- **Lists** as many ideas as possible for neural network applications in our lives.
- **Knows** how to import an Excel file containing student grades and view the underlying data.
- **Performs** some calculations (calculating averages, finding the highest and lowest scores in each subject) to determine the number of successful students.
- **Analyzes** the relationships between scores in different subjects through results and graphs.
- **Understands** the concept of conditional statements and how to use them for decision-making in programs.
- **Explains** how to use loops to repeat programming commands effectively.
- **Applies** some examples of functions and how to create and call them to organize code.
- **Understands** the concept of loops and functions.
- **Explains** the while loop for conditional repetition.
- **Writes** simple code for loops and functions.
- **Understands** data structures in Python and why we use them.
- **Compares** the uses of List, Tuple, and Dictionary.
- **Writes** simple code using data structures in Python.
- **Uses** Python functions to convert letters to numbers and vice versa.
- **Performs** some operations (encrypting/decrypting a single character by adding and subtracting a constant).
- **Explains** the importance of encryption. In data and information protection.
- **Explains** the concept/function of bit-level operations.
- **Uses** the XOR operation to encrypt/decrypt simple messages.
- **Writes** a simple Python program to encrypt/decrypt text with a secret key

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The Study Plan for the Information and Communication Technology (ICT) Curriculum for Second preparatory, second semester – Academic Year 2025/2026

Month	week	Date	Topic	Tests & Evaluation	notes
			Unit Three: Artificial Intelligence		
February 2026	1	7/2/2026	Lesson One: The Historical Development of Artificial Intelligence	According to Resolution 136, a weekly test is conducted.	➤ Holidays, official vacations, and exam dates must be taken into consideration. ➤ Eid al-Fitr begins on Saturday, March 21, 2026. The first monthly exam will be held from the 25/3/2026 to the 3rd of April 2026
	2	14/2/2026	Lesson Two: How Machines Think and Change Our World Options?		
	3	21/2/2026	Lesson Three: Artificial Intelligence Is All Around Us		
	4	28/2/2026	Lesson Four: The Artificial Neural Cell		
March 2026	5	7/3/2026	Lesson Five: The Role of the Neural Cell in Artificial Intelligence		
	6	14/3/2026	Lesson Six: Introduction to Data Analysis in Python		
			Unit Four: python programming language		
	7	21/3/2026	Lesson One: practical application of data analysis from an Excel file Lives		
May 2026	8	28/3/2026	Lesson Two: conditional statements in Python Applications		
	9	4/4/2026	Lesson Three: loops and functions		
	10	11/4/2026	Lesson Four: data structures or collection		➤ Sinai Liberation Day, Saturday 24/4 /2026 ➤ Labor Day, Friday 5/1/2026 ➤ Second Monthly Exam from 26/4/ to 30/4/2026
	11	18/5/2026	Lesson Five: an introduction to cryptography using Python		
	12	25/4/2026	Lesson Six: Python cryptography: how to turn messages into secrets using the XOR operator)		
	13	2/5/2026	Project + General Review		The second monthly meeting for parents will held on 7/5/2026

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Grade	Class	Date	Period	Unit	Lesson	Lesson Title
2prep.				Three	One	Unit Three: Artificial Intelligence The historical development of artificial intelligence

Introduction / How have artificial intelligence technologies evolved in our lives?

Lesson Objectives / -To differentiate between the workings of traditional programs and artificial intelligence.

-To understand the historical development of artificial intelligence.

-To state the importance of artificial intelligence in solving problems in our lives.

Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject	Educational activities	Formative assessment	Evaluation
Learning to Be: Developing Critical Thinking . Work Values: Understanding the Impact of Technology on Society . Globalization Issues: Keeping Pace with Technological Development Throughout the Ages.	Interactive board– Textbook – Introductory Video		☐ Brainstorming ☐ Dialogue and discussion ☐ Cooperative Learning		In collaboration with your classmates, think of at least three examples to determine whether the messages you send to another party are from a machine or a human.	Using PowerPoint, design a poster illustrating the most important applications of artificial intelligence.	Solve the questions in the textbook.
Weekly Assessment			Put a checkmark (✓) next to the correct statement and an X (x) next to the following: Artificial intelligence is a branch of computer science. ()				

Teacher's Signature

Grade	Class	Date	Period	Unit	Lesson	Lesson Title
2prep.				Three	four	The Artificial Neural Cell .

Introduction / How do artificial intelligence technologies work? Explain with examples.

Lesson Objectives / - To explain the concept of an artificial neuron.

-To identify the components of a neuron and their role in artificial intelligence.

-To deduce how an artificial neuron is built and operates.

Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject	Educational activities	Formative assessment	Evaluation
Learn to be: Increasing technological awareness . Work values: Collaboration. Globalization issues: Facing global challenges through digital transformation.	Interactive board– Textbook – Introductory Video		☐ Brainstorming ☐ Dialogue and iscussion ☐ Cooperative Learning		In collaboration with your classmates, think of at least three examples to determine whether the messages you send to another party are from a machine or a human.	Using PowerPoint, design a poster illustrating the most important applications of artificial intelligence.	Solve the questions in the textbook.
Weekly Assessment				• Mark (✓) next to the correct statement and (×) next to the following: Bias helps the cell to produce results even in the absence of input. ()			
				Teacher's Signature			

Grade	Class	Date	Period	Unit	Lesson	Lesson Title
2prep				Four	2	conditional statements in Python Applications

Introduction / What are conditional statements? Give examples of how to use conditional statements in Python.

Lesson Objectives / -To understand the concept of conditional statements and how to use them to make decisions in programs.

-To explain how to use loops to repeat programming commands effectively.

-To apply some examples of functions and how to create and call them to organize code.

Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject	Educational activities	Formative assessment	Evaluation
Learn to be: Predicting the results of code execution Business values: Discovering and correcting errors Globalization issues: Addressing global challenges through digital transformation	Interactive board– Textbook – Introductory Video		☐ Brainstorming ☐ Dialogue and discussion ☐ Cooperative Learning		In collaboration with your classmates, create a function to iterate over a given number	Compare the functions mentioned in the lesson.	Solve the questions in the textbook.
Weekly Assessment		Complete: The keyword that means "unless" in Python is				Teacher's Signature	

Grade	Class	Date	Period	Unit	Lesson	Lesson Title
2prep				Four	3	loops and functions

Introduction / What are Loops and Functions?

Lesson Objectives -To understand the concept of loops and functions.

-To explain the while loop for conditional loops.

-To write simple code for loops and functions.

Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject	Educational activities	Formative assessment	Evaluation
Learning to be: Logical thinking and sequencing steps Work values: Explaining the concept of repetition in simple language Globalization issues: Facing global challenges through digital transformation Assigning a specific task	Interactive board– Textbook – Introductory Video		☐ Brainstorming ☐ Dialogue and discussion ☐ Cooperative Learning		In collaboration with your classmates, create a function to iterate over a given number.	Compare the functions mentioned in the lesson.	Solve the questions in the textbook.
Weekly Assessment		Complete: The main purpose of using functions is.....				Teacher's Signature	

Grade	Class	Date	Period	Unit	Lesson	Lesson Title
2prep				Four	4	data structures or collection

Introduction / What are data structures?

Lesson Objectives / -To understand data structures in Python and why we use them.

-To compare the uses of List, Tuple, and Dictionary.

-To write simple code using data structures in Python.

Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject			Educational activities	Formative assessment	Evaluation
Learning to be: Increasing technological awareness Work values: Mastery in technical work Globalization issues: Responsible use of technology	Interactive board– Textbook – Introductory Video		☐ Brainstorming ☐ Dialogue and discussion ☐ Cooperative Learning				In collaboration with your classmates, conduct research on data structures	Compare different data structures.	Solve the questions in the textbook.
Weekly Assessment			Complete: What is meant by Data Structures?			Teacher's Signature			

Grade	Class	Date	Period	Unit	Lesson	Lesson Title
2prep				Four	5	an introduction to cryptography using Python

Introduction / What is encryption? How can encryption be performed using Python?

Lesson Objectives / -To use Python functions to convert letters to numbers and vice versa.

-To perform some operations (encrypting/decrypting a single character by adding and subtracting a constant).

-To explain the importance of encryption in protecting data and information.

Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject	Educational activities	Formative assessment	Evaluation
Learn to be: Digital Expertise Business Values: Ethical Use of Technology Globalization Issues: Raising Awareness of Data and Information Protection	Interactive board – Textbook – Introductory Video		☐ Brainstorming ☐ Dialogue and discussion ☐ Cooperative Learning		In collaboration with your classmates, create a security code for WhatsApp.	Using PowerPoint, design a slide about encryption.	Solve the questions in the textbook.
Weekly Assessment			Complete: Simple encryption (such as the Caesar cipher) relies on..... Teacher's Signature				

Grade	Class	Date	Period	Unit	Lesson	Lesson Title
2prep				Four	6	Python cryptography: how to turn messages into secrets using the XOR operator)

Introduction / How can you perform encryption in Python?

Lesson Objectives / -Explains the concept/function of bit-level operations.

-Uses the XOR operation to encrypt/decrypt simple messages.

-Writes a simple Python program to encrypt/decrypt text with a secret key.

Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject			Educational activities	Formative assessment	Evaluation
Learn to be: Logical and analytical thinking Work values: Predicting outcomes Globalization issues: Security thinking	Interactive board– Textbook – Introductory Video		☐ Brainstorming ☐ Dialogue and iscussion ☐ Cooperative Learning				In collaboration with your classmates, decode a letter.	In collaboration with your classmates, decode a letter.	With your classmates, work on deciphering a letter.
Weekly Assessment			Complete: Bit-level operations are.....			Teacher's Signature			